

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

SSI TECHNOLOGIES, LLC,

Plaintiff,

v.

OPINION and ORDER

DONGGUAN ZHENGYANG ELECTRONIC
MECHANICAL LTD,

20-cv-19-jdp

Defendant.

Plaintiff SSI Technologies, LLC alleges that its competitor, defendant Dongguan Zhengyang Electronic Mechanical LTD (DZEM), infringes two SSI patents on automotive fluid sensors. DZEM denies infringement, contends that the patents are invalid, and accuses SSI of tortious interference with its business relationships. Both sides have moved for summary judgment on various issues. Dkt. 92 and Dkt. 98.

Infringement turns on issues of claim construction, and the court concludes that DZEM does not infringe either patent. DZEM does not suggest that it faces any further threat of enforcement under the patents-in-suit, so the court need not consider the validity of the patents. The court will grant SSI's motion for summary judgment on DZEM's tortious-interference counterclaim. The several pending motions involving evidentiary and discovery disputes are denied as moot.

BACKGROUND

The patents-in-suit involve fluid sensors, specifically sensors that check the purity of diesel exhaust fluid used in emission-reduction systems. Diesel exhaust fluid is a mixture of water and urea, injected as a mist into diesel exhaust. The diesel exhaust fluid reacts with

nitrous oxide in the exhaust, breaking it down into nitrogen, water, and carbon dioxide, thereby reducing the more harmful emission of nitrous oxide. If the diesel exhaust fluid is contaminated, the effectiveness of the nitrous oxide reduction system is reduced and contamination may damage the system.

SSI and DZEM are competitors in the automotive-sensor market; they both make and sell sensors that detect contamination in diesel exhaust fluid.

SSI contends that DZEM's sensor infringes the two patents-in-suit. The first patent-in-suit, U.S. Patent No. 8,733,153, discloses and claims a sensor system that measures the speed at which sound waves travel through a fluid to determine a quality of the fluid, such as whether a contaminant is present. The second patent-in-suit, U.S. Patent No. 9,535,038, improves the accuracy of such a sensor system by disclosing and claiming a sensor system with a filter that prevents gas bubbles from entering the sensing area.

ANALYSIS

A. Basic legal principles

Summary judgment is appropriate if the moving party shows that there is no genuine dispute of material fact and that the movant is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(a). On cross-motions for summary judgment, the court construes the facts, and draws all reasonable inferences from those facts, in favor of the nonmovant. *Wis. Cent., Ltd. v. Shannon*, 539 F.3d 751, 756 (7th Cir. 2008).

The court applies a two-step analysis to evaluate both infringement and invalidity; each begins with claim construction, after which the court determines whether the claim, as properly construed, is infringed or invalid. *See, e.g., Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352,

1359 (Fed. Cir. 2000) (infringement); *Smiths Indus. Med. Sys., Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 1353 (Fed. Cir. 1999) (invalidity). At summary judgment, the court bears in mind that DZEM will have the burden at trial to show invalidity by clear and convincing evidence, and SSI will have the burden to prove infringement to a preponderance of the evidence. *High Point Design LLC v. Buyer's Direct, Inc.*, 621 F. App'x 632, 638, 640 (Fed. Cir. 2015).

Claim construction is the process by which the court determines the meaning and scope of the patent claims asserted to be infringed. *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., Ltd.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008) (internal quotation marks omitted). A patent's claims define the scope of the invention, and thus the scope of the patentee's right to exclude others from practicing that invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). Claim language receives its "ordinary and customary meaning," which "is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1313. Sometimes "the ordinary meaning of claim language . . . may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." *Id.* at 1314. But sometimes the ordinary and customary meaning of a claim term is not manifestly clear. If such a term is disputed and material to an issue in the case, the court must construe the term to establish its meaning.

When construing a disputed term, the court must begin with the claim language itself, which provides substantial guidance. *Id.* But the court reads the claim language "not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification" and its prosecution history. *Id.* at 1313. The patent and its prosecution history, related patents and their prosecution histories, and the prior

art that is cited or incorporated by reference in the patent-in-suit and its prosecution history constitute the patent's intrinsic evidence. *Id.* at 1317. Of these sources, "the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Id.* at 1315 (internal quotation marks omitted).

The court may also consider extrinsic evidence, which refers to all other types of evidence, including inventor testimony, expert testimony, documentary evidence of how the patentee and alleged infringer have used the claim terms, dictionaries, treatises, and other similar sources. *Id.* at 1317–18. But extrinsic evidence is less reliable and less useful in claim construction than the patent and its prosecution history. *Id.* at 1318. Intrinsic evidence trumps any extrinsic evidence that would contradict it. *Id.* at 1314–16.

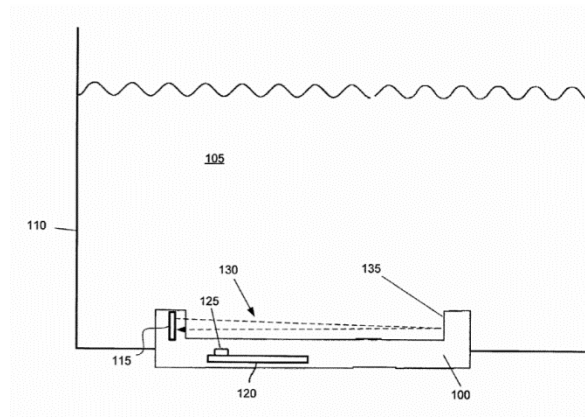
For the purpose of summary judgment, the parties agree that a person of ordinary skill in the art "would need to have approximately 10 years of experience in sensor design, analog and digital circuits, and software and firmware development." Dkt. 97, at 19.

B. '153 patent

1. Introduction

The '153 patent describes and claims a sensor system that measures the speed at which a sound wave travels through a fluid to determine a quality of the fluid, such as whether the fluid is contaminated. The sensor system relies on the phenomenon that sound waves travel through different fluids at different, known speeds. If the concentration of a fluid changes, say by contamination with another fluid, so too will the speed at which a sound wave travels through the fluid.

The sensor system is submerged within a tank containing the fluid, and it includes a controller, one or more transducers (which the parties define as “a device that converts an electrical signal into sound and converts sound into an electrical signal,” Dkt. 72, at 2), and a temperature sensor. The overall configuration is shown in this illustration:



'153 patent, Figure 1.

To determine a quality of the fluid, a transducer (reference number 115 in the illustration) transmits a sound wave (130) through the fluid toward a fixed surface (135). The sound wave reflects off the fixed surface and back toward the transducer. (The system can also include a second transducer that transmits a sound wave vertically to determine the depth of fluid remaining in the tank, but none of the asserted claims include the second transducer.) The transducer measures the elapsed travel time of the sound waves to the fixed surface (which the parties refer to as “time of flight”) and transmits that information to the controller. The fluid’s temperature affects the speed at which sound travels through it, so the sensor system includes a temperature sensor (125). The controller is programmed to determine whether the tank contains pure diesel exhaust fluid based on the time of flight and the fluid’s temperature.

SSI asserts one independent claim and four dependent claims from the '153 patent.

Claim 1 is the independent claim:

A system for determining a quality of fluid in a tank, the system comprising:

a transducer configured to generate a sound wave and to detect an echo of the sound wave, the transducer positioned near the bottom of the tank such that the sound wave travels toward a fixed object, the fixed object positioned a known distance away from the transducer;

a temperature sensor configured to detect a temperature of the fluid; and

a controller configured to

produce a signal to drive the transducer to produce the sound wave,

receive an indication of the temperature of the fluid from the temperature sensor, and

determine whether a contaminant exists in the fluid based on the temperature of the fluid, a time period from when the sound wave is produced to when the echo is detected, and at least one of the group of a) whether a measured volume is out of range and b) a dilution of the fluid is detected while the measured volume of the fluid decreases.

'153 patent, 13:12–34. The other asserted claims, 2, 4, 7, and 8, all depend from claim 1, so the limitations of claim 1 are incorporated into each of the asserted claims.

2. Claim construction

The parties identify two claim-construction issues that arise from the '153 patent: the terms “a dilution of the fluid” and “fixed object positioned a known distance away from the transducer.” Neither of these terms is the dispositive claim construction issue, which involves the term “based on,” as explained in the following infringement analysis.

3. Infringement

At step two of the infringement analysis, the court must compare the properly construed claims to the accused device, to determine as a matter of fact whether every claim element is present, either literally or by a substantial equivalent, in the accused device. If the relevant structure and operation of the accused device are not genuinely disputed, as in this case, the question of infringement turns on claim construction and is amenable to resolution on summary judgment. *Gen. Mills, Inc. v. Hunt-Wesson, Inc.*, 103 F.3d 978, 983 (Fed. Cir. 1997).

DZEM concedes that its sensor meets every claim element but one: the limitation requiring the sensor's controller to

determine whether a contaminant exists in the fluid based on the temperature of the fluid, a time period from when the sound wave is produced to when the echo is detected, and at least one of the group of a) whether a measured volume is out of range and b) a dilution of the fluid is detected while the measured volume of the fluid decreases.

'153 patent, 13:28–34. Both sides agree that this limitation requires that the controller be configured to base the determination of whether a contaminant exists on at least two factors: the fluid's temperature and the sound wave's time of flight. The parties also agree that the DZEM sensor's controller is configured to use these two factors.

The dispute concerns the third, compound factor: “at least one of the group of a) whether a measured volume is out of range and b) a dilution of the fluid is detected while the measured volume of the fluid decreases.” The parties agree that the DZEM controller is not configured to consider whether a measured volume is out of range, and that the DZEM sensor does not measure the volume of fluid at all. The precise dispute concerns how the phrase “a dilution of the fluid is detected while the measured volume of the fluid decreases” affects the scope of the claim.

SSI contends that this language requires only that the controller make the contamination determination while the volume of the fluid is decreasing, which is to say, while the diesel exhaust fluid system is running. The fluid volume is necessarily decreasing while the system is running, because the tank is closed during operation and the system is consuming the diesel exhaust fluid. The DZEM sensor works while the system is running. So the DZEM sensor makes the contamination determination while the volume of the fluid is decreasing. SSI says that is all that this part of the claim requires.

DZEM contends that the disputed claim language requires something more: specifically, that the controller be configured to consider whether the fluid volume is decreasing in making the contamination determination. The court is persuaded that DZEM is correct.

The court begins with the claim language. The claim requires the controller to be configured to make the contamination determination *based on* three inputs: time of flight, temperature and at least one of two volume determinations. The claim language also requires that the contamination determination be made while the *measured* volume of the fluid decreases. SSI's construction reads "based on" and "measured" out of the claim.

The specification provides further support for DZEM's position. The purpose of configuring the controller to consider measured volume is to create an error-detection mechanism that improves the operation of the sensor. The specification says that in a diesel exhaust fluid system,

the system 300 determines that there is an error when it detects the concentration level of the UREA decreasing (i.e., becoming diluted) at the same time as the level of the UREA is decreasing. . . . Because the UREA cannot become diluted when the level of the UREA is decreasing, the system 300 determines an error exists.

'153 patent, 12:40–53. (As one of SSI's experts, Daniel van der Weide, explains, the specification here uses "UREA" as a synonym for "diesel exhaust fluid." Dkt. 85, ¶¶ 39–40.)

The prosecution history provides further support for DZEM's position. In the application, original claim 1 required the controller to determine whether a contaminant was present in the fluid based only on the first two factors: "[1] the temperature of the fluid and [2] a time period from when the sound wave is produced to when the echo is detected." Dkt. 101-6, at 2. The proposed claim did not include any requirement related to measured volume. The examiner rejected proposed claim 1 as obvious on the basis of U.S. Patent Application Publication No. 2010/0018309 by Marcovecchio, either alone or in combination with other references. Marcovecchio disclosed a sonic fluid sensor that determined the composition of a fluid based on the fluid's temperature and the time of flight of a sonic pulse sent through the liquid. *Id.* at 12.

In response, the patentee amended the claims to add the limitation related to the measured volume of the fluid, specifically the requirement that the controller base its determination on "at least one of the group of a) whether a measured volume is out of range and b) a dilution of the fluid is detected while the measured volume of the fluid decreases." *Id.* at 20. The added limitation closely tracks the language in other claims that relate to error-correction. Original claim 32 (which would eventually issue as claim 31) disclosed a controller that "detects [an] error condition based on a determined level of the fluid exceeding a maximum limit." *Id.* at 8. Original claim 31 (which would issue as claim 30) disclosed a controller that "detects [an] error condition based on a determined dilution of the fluid and a determined drop in a level of the fluid." *Id.* As SSI points out, the newly incorporated limitations do not track the error-correction limitations from original claims 31 and 32 word-

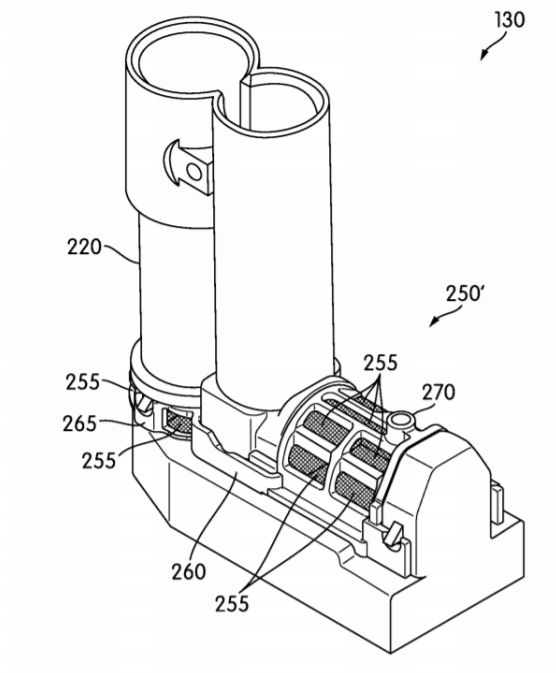
for-word. But they are substantively identical, which makes the patent prosecution strategy clear: the patentee overcame the obviousness objection by incorporating the error-detection limitations from original claims 31 and 32 into claim 1.

The parties agree that the DZEM sensor doesn't base the contamination determination on any consideration of the measured volume of fluid. But claim 1, properly construed, requires that the controller be configured to do so. The DZEM sensor does not infringe independent claim 1, and thus is cannot infringe any claim that depends from claim 1. The court will grant DZEM's motion for summary judgment regarding infringement of the '153 patent.

C. '038 patent

1. Introduction

The '038 patent discloses and claims an improved sonic sensor system. Fluid in a tank can become aerated, that is to say filled with bubbles. For examples, the tank may be filled rapidly, the fluid in the tank may slosh violently, or the tank may vibrate. Gas bubbles interfere with sonic sensing because they disperse the sound wave and alter the time of flight of the sonic pulse. To address this problem, the '038 patent describes and claims a sensor system that includes a filter that prevents gas bubbles from entering the sensing area and a chimney to exhaust gas bubbles from the sensing area. An embodiment is shown in this drawing:



'038 patent, Figure 10. In this drawing, a mesh filter (255), prevents gas bubbles from entering a horizontal sensing area on the right (where the quality of the fluid is sensed), and a vertical sensing area on the left (where fluid depth is measured).

SSI asserts one independent and five dependent claims from the '038 patent. Claim 9 is the independent claim:

A sensor operable to sense a characteristic of a fluid, the sensor comprising:

a housing;

a sensing area configured to contain the fluid;

a filter integral with the housing and covering the sensing area, the filter configured to allow a liquid portion of the fluid to enter the sensing area, and

substantially prohibit one or more gas bubbles of the fluid from entering the sensing area; and

a transducer configured to

output a pulse of sound through the liquid portion of the fluid contained within the sensing area,

receive the reflected pulse of sound, and

output a characteristic of the fluid based on the received pulse of sound.

'038 patent, 6:12–26. The other asserted claims, 10–13 and 18, depend from claim 9 and thus the limitations of claim 9 are incorporated into each of the asserted claims.

2. Claim construction

The parties identify eight claim construction issues in the '038 patent. But only one is relevant to the court's infringement analysis: the term "filter."

SSI contends that the term should be construed as "a device containing openings through which liquid is passed that blocks and separates out matter, such as air bubbles." Dkt. 72, at 1. DZEM contends that the term should be construed as "a porous structure defining openings, and configured to remove impurities larger than said openings from a liquid or gas passing through the structure." *Id.* at 1–2.

The specification of the '038 patent offers no special definition of "filter." The primary discussion of the filter is in two paragraphs, quoted here:

FIG. 5 illustrates a filter, or filter shroud, 250 for prohibiting, or inhibiting, the flow of gas, such as but not limited to, gas bubbles (i.e., gas trapped in a liquid). In some embodiments, the filter 250 includes mesh, or one or more mesh screens, 255 and a frame 260. In other embodiments, the filter 250 includes only the mesh screens 255. In some embodiments, the mesh screens 255 are a fine mesh material. In some embodiments, the mesh screens 255 are a synthetic polymer (e.g., nylon, polyethylene, polypropylene, etc.). In other embodiments, the mesh screens 255 are a metallic material.

'038 patent, 4:49–59.

In one embodiment, gas bubbles within the fluid having a size larger than an aperture size of the mesh screens 255 are unable to freely pass through the mesh screens 255. However, a liquid portion of the fluid, can freely pass through the mesh screens 255, as well as gas bubbles which have a diameter smaller than the aperture size of the mesh screens 255. It has been found through empirical testing of a DEF tank system that an aperture size of 100 microns reduces the quantity of gas bubbles within a sensing area sufficiently enough to enable continuous measurements by the concentration sensor 170 and/or the level sensor 175.

'038 patent, 5:6–17.

In all the embodiments discussed in the patent, the filter is a mesh screen. But as SSI rightly points out, it is improper to read the features of the embodiments into the claims as limitations. And indeed, dependent claim 14 claims a sensor in which the filter is a mesh screen. Claim 9 does not specify a mesh filter, so its clear that claim 9 is not limited to mesh screen filters. But DZEM does not take that unreasonable position.

DZEM's proposed construction is broad enough to encompass any structure that would be reasonably considered a filter as the term would be understood by one of skill in the art. DZEM's construction is consistent with those found in general purpose dictionaries. *Merriam-Webster* defines the term as "a porous article or mass (as of paper or sand) through which a gas or liquid is passed to separate out matter in suspension."¹ The *American Heritage Dictionary* defines the term as "[a] porous material through which a liquid or gas is passed in order to separate the fluid from suspended particulate matter."² DZEM adduces evidence that these ordinary definitions are also recognized in the field of mechanical engineering. DZEM's expert,

¹ *Filter*, *Merriam-Webster*, <https://www.merriam-webster.com/dictionary/filter> (last visited September 3, 2021).

² *Filter*, *American Heritage Dictionary*, <https://www.ahdictionary.com/word/search.html?q=filter> (last visited September 3, 2021).

Jack Ganssle, cites *The Dictionary of Mechanical Engineering* for the following definition: “[a] mesh, gauze, paper, or cloth, usually held by a frame, that removes particulates larger in diameter than the mesh or pore size from a fluid stream passing through it.” Dkt. 86, ¶ 22. The discussion in the specification that the effective aperture size is tiny—100 microns—is consistent with the notion that the patent uses the term “filter” in the way proposed by DZEM.

SSI’s definition, by contrast, is essentially functional. SSI would define the term to include nearly any device that separates matter from a liquid. But claim 9 is not written in means-plus-function form, nor is it otherwise phrased in functional language. SSI points to nothing in the specification that supports a purely functional definition.

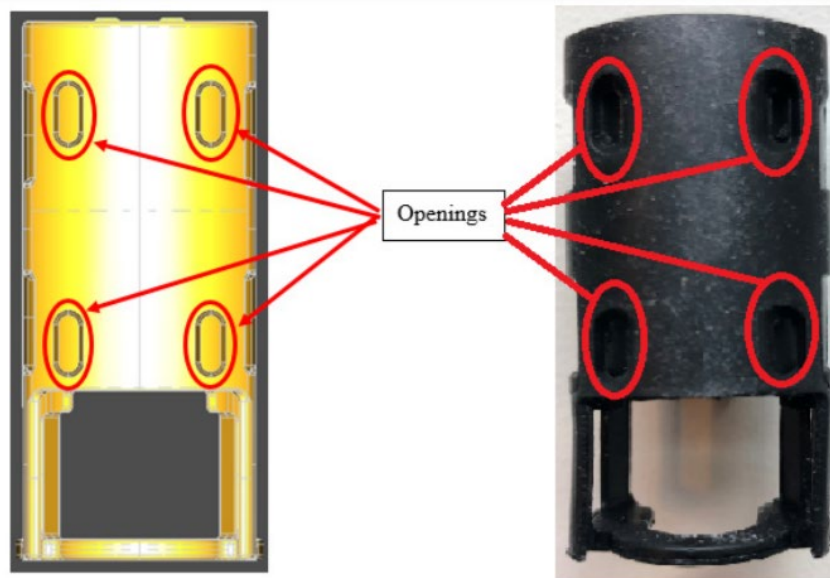
The fundamental problem with SSI’s proposed construction is that it would include devices that are not filters, such as a centrifuge or a set of baffles, so long as the device removes matter from a liquid. SSI’s proposed construction also provides that a “filter” must have “openings through which liquid is passed.” But that adds nothing of substance, because even a centrifuge or set of baffles would have openings through which liquid passes.

The court adopts DZEM’s construction, which captures the essential feature of a filter, which is passing a fluid through a porous material or structure to remove particles that are larger than the pores.

3. Infringement

There is no genuine dispute about the structure or function of the DZEM sensor, so the infringement question is straightforward in light of the court’s decision on claim construction.

A rubber cover encloses the DZEM sensor. The rubber cover has four openings on its underside, shown here:



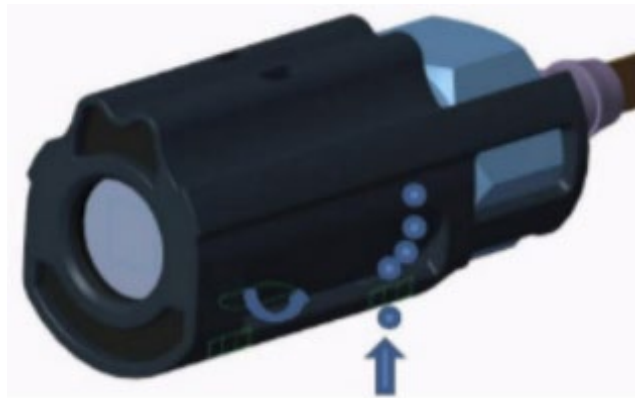
Dkt. 80, ¶ 80. The rubber cover also has slits on its sides, one next to each of the openings on the underside of the cover, shown here:



Id., ¶ 78.

Andrea Strzelec, one of SSI's experts, describes experiments in which she submerged the DZEM sensor in a tank of diesel exhaust fluid, then used an aerator to generate bubbles in the tank. In some experiments, she used the aerator to generate large bubbles, and in others,

small bubbles. *Id.*, ¶ 81. Although she says that some large bubbles “were size excluded from entering the openings,” she says that “*most* of the air bubbles were *deflected* by the portions of [the rubber cover] where there are no openings.” *Id.* (emphasis added). She also notes, “Smaller air bubbles that got through the openings exited slits on the sides of the filter membrane.” *Id.* The path of the air bubbles through the side slits is illustrated in this image:



Id.

The court’s claim construction resolves the dispute. First, the rubber cover is not “a porous structure”; it is a solid rubber barrier that contains four relatively large holes for fluid intake and four exhaust slits. Second, Strzelec’s experiments demonstrate that the rubber cover isn’t “configured to remove impurities larger than [its] openings” from the diesel exhaust fluid. As Strzelec noted, the rubber cover excludes air bubbles primarily by deflecting them off its solid surface, not by straining the liquid through its four openings. The rubber cover also admits smaller air bubbles through the four openings but excludes them by ventilating them through its side slits, not by filtering them through the four openings. In sum, the rubber cover acts as a baffle system. It deflects larger bubbles, and it admits fluid with smaller bubbles into the sensing area through four openings and then ventilates the smaller bubbles from four side slits.

The DZEM sensor does not have a filter that excludes bubbles by straining fluid through a porous surface.

SSI contends that even if the DZEM sensor lacks a filter as claimed, there is at least a material question of fact whether the DZEM sensor infringes the '038 patent under the doctrine of equivalents. SSI doesn't develop this argument, so it is forfeited. *Hall v. Flannery*, 840 F.3d 922, 927 (7th Cir. 2016). In any event, the argument fails. Under the doctrine of equivalents, the question at summary judgment is whether "a reasonable juror could find that the [rubber cover] perform[s] substantially the same function, in substantially the same way, achieving substantially the same result" as the claimed filter. *Edgewell Personal Care Brands, LLC v. Munchkin, Inc.*, 998 F.3d 917, 924 (Fed. Cir. 2021). The function may be the same, but no reasonable jury could find that DZEM sensor's way of achieving the function is substantially the same as that claimed in the '038 patent.

The court will grant DZEM's motion for summary judgment regarding infringement of the '038 patent.

D. DZEM's counterclaims

DZEM brings counterclaims for noninfringement, invalidity, and tortious interference. As for noninfringement, the court will grant summary judgment to DZEM for the same reasons that it granted summary judgment on SSI's infringement claims. As for invalidity, "[a] district court judge faced with an invalidity counterclaim challenging a patent that it concludes was not infringed may either hear the claim or dismiss it without prejudice." *Flexuspine, Inc. v. Globus Medical, Inc.*, 879 F.3d 1369, 1376 (Fed. Cir. 2018) (quoting *Liquid Dynamics Corp. v. Vaughan Co., Inc.*, 355 F.3d 1361, 1370 (Fed. Cir. 2004) (alteration in original)). The court will dismiss DZEM's invalidity counterclaims without prejudice. Nothing in DZEM's complaint or any of

the parties' briefing suggests that DZEM faces any risk of future prosecution under either of the patents-in-suit, so there is no need for the court to determine whether the patents are invalid.

DZEM's tortious-interference counterclaim requires more analysis. That claim is based on DZEM's allegation that SSI contacted several motor-vehicle companies to dissuade them from using the DZEM sensor in their vehicles, alleging that the DZEM sensor infringed the '038 patent. Dkt. 126. (DZEM doesn't allege that the communications accused the DZEM sensor of infringing the '153 patent.)

SSI contends that its communications were protected under the *Noerr-Pennington* doctrine, which prohibits suits based on a defendant's petition to the government for redress of grievances. *E.R.R. Presidents Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127 (1961); *United Mine Workers of Am. v. Pennington*, 381 U.S. 657 (1965); *see also Apple, Inc. v. Motorola Mobility, Inc.*, 886 F. Supp. 2d 1061, 1075 (W.D. Wis. 2012). Although the doctrine originally developed in the antitrust context, it has been extended to patent lawsuits, as well as to pre-litigation communications with other companies regarding future patent lawsuits. *See, e.g., Apple*, 886 F. Supp. 2d at 1075 (collecting cases applying *Noerr-Pennington* to patent litigation); *Globetrotter Software, Inc. v. Elan Comput. Grp., Inc.*, 362 F.3d 1367, 1377 (Fed. Cir. 2004) (*Noerr-Pennington* applies to "pre-litigation communications alleging patent infringement"). And the doctrine has been extended to cover not only liability for antitrust violations, but also claims of tortious interference with business relationships. *Havoco of Am., Ltd. v. Hollobow*, 702 F.2d 643, 649 (7th Cir. 1983).

DZEM says that the *Noerr-Pennington* doctrine doesn't protect SSI for three reasons: (1) SSI knew or reasonably should have known that the DZEM sensor didn't infringe the '038

patent; (2) SSI's communications were made for an anticompetitive purpose; and (3) some of SSI's communications were with companies in countries where SSI has no patent protection.

DZEM's first two arguments are really variations of a single argument, which is that the "sham litigation" exception to the *Noerr-Pennington* doctrine should apply. As the Supreme Court put it in *Noerr*, the First Amendment doesn't protect petitioning activity that is "a mere sham to cover what is actually nothing more than an attempt to interfere directly with the business relationships of a competitor." 365 U.S. at 144. The exception has two requirements: (1) "the lawsuit must be objectively baseless in the sense that no reasonable litigant could realistically expect success on the merits"; and (2) the litigation must "use . . . the governmental *process*—as opposed to the *outcome* of that process—as an anticompetitive weapon" against a competitor's business relationships. *Prof. Real Estate Inv'rs, Inc. v. Columbia Pictures Indus., Inc.*, 508 U.S. 49, 61 (1993) (internal quotation marks omitted) (emphasis in original). DZEM's first two arguments correspond to the two elements of the exception.

DZEM contends that SSI's infringement claim regarding the '038 patent is objectively baseless relying on the claim 9 limitation describing "a transducer configured to . . . output a characteristic of the fluid based on the received pulse of sound." '038 patent, 6:59–64. DZEM argues that the DZEM sensor does not infringe the '038 patent because it doesn't contain such a transducer. DZEM also argues that the '038 patent is invalid under § 112 because the specification does not include an enabling disclosure to support this limitation. DZEM's arguments are based on the undisputed fact that a transducer cannot "determin[e] a value for a fluid characteristic," Dkt. 123, ¶ 73. DZEM's position is essentially that the '038 patent fails to teach a transducer that outputs a characteristic of the fluid because the transducer merely sends the sound wave's time of flight to the sensor system's controller. In other words, it's the

controller, not the transducer, that determines a characteristic of the fluid based on the time of flight.

In response, SSI relies on an opinion from Strzelec, one of its experts. Strzelec says that a person of ordinary skill in the art would understand this limitation “as a well-accepted way of saying that the transducer outputs an indication or signal indicative of a characteristic of the fluid” rather than saying that the transducer determines the characteristic of the fluid itself. Dkt. 83, ¶ 160. DZEM identifies nothing that calls Strzelec’s qualifications to offer this opinion into question, and her opinion isn’t plainly unreasonable, so the court concludes that SSI’s position is not objectively baseless. *See 800 Adept, Inc. v. Murex Sec., Ltd.*, 539 F.3d 1354, 1371 (Fed. Cir. 2008) (party’s position was reasonable because it was supported by expert testimony; contrasting opinion by opposing party’s expert did not render the position unreasonable).

Because DZEM has failed to satisfy the first element of the sham-litigation exception, the court doesn’t need to consider DZEM’s argument that SSI’s communications used the litigation process as an anticompetitive weapon.

DZEM’s third argument is that *Noerr-Pennington* doesn’t protect SSI’s communications to companies in countries where SSI has no patent protection. DZEM identifies two such companies: DAF, a company in the Netherlands, and VW Brazil. But even if *Noerr-Pennington* doesn’t apply to SSI’s communications with these companies, DZEM has failed to adduce evidence to support the required elements of its counterclaim.

Both parties assume that DZEM’s tortious-interference counterclaim is governed by Wisconsin law, so the court will do the same. *See FutureSource LLC v. Reuters Ltd.*, 312 F.3d 281, 283 (7th Cir. 2002) (“[T]here’s no discussion of choice of law issues, and so we apply the

law of the forum state.”). Under Wisconsin law, one of the required elements of a tortious-interference claim is a “sufficiently certain, concrete and definite prospective relationship” between DZEM and a third party. *Shank v. William R. Hague, Inc.*, 192 F.3d 675, 689 (7th Cir. 1999), *overruled in part on other grounds by Hill v. Tangherlini*, 724 F.3d 965 (7th Cir. 2013). The only evidence that DZEM offers of a prospective contractual relationship with either of these companies is declaration testimony from Robert Kirby, DZEM’s chief operating officer, that SSI interfered with “business DZEM would potentially conduct” with those companies. Dkt. 126, ¶¶ 16, 17. Kirby’s declaration includes no further information about the “business DZEM would potentially conduct” with DAF and VW Brazil, and DZEM offers no other evidence of prospective contracts with these companies. Kirby’s vague statements are not evidence of the type of “sufficiently certain, concrete, and definite” prospective contract required to survive summary judgment. *See Oxbo Int’l Corp. v. H&S Mfg. Co., Inc.*, No. 15-cv-292-jdp, 2016 WL 4435302, at *3 (W.D. Wis. Aug. 19, 2016) (“[A] *proposed* sale to a *potential* buyer is a far cry from a certain, concrete, and definite contract.”) (emphasis in original).

In sum, SSI’s communications with companies in countries where SSI enjoys patent protection were protected under *Noerr-Pennington* because this lawsuit wasn’t objectively baseless. And even if SSI’s communications with companies in other countries weren’t protected by *Noerr-Pennington*, DZEM has failed to adduce evidence that it had prospective contracts with those companies. The court will grant SSI’s motion regarding DZEM’s tortious-interference counterclaim.

E. Evidentiary and discovery disputes

Several other motions brought by both parties are also before the court: (1) SSI’s motions to strike what it contends are untimely disclosures by DZEM, Dkt. 90 and Dkt. 148;

(2) SSI's motions to compel discovery against DZEM, Dkt. 140 and Dkt. 145; (3) SSI's motion in limine, Dkt. 184; (4) SSI's motion for discovery sanctions, Dkt. 185; (5) DZEM's motion in limine, Dkt. 193; (6) DZEM's motions to exclude expert testimony, Dkt. 195 and Dkt. 197. These motions don't raise any issues that affect the court's summary judgment decision, so they will all be denied as moot.

ORDER

IT IS ORDERED that:

1. Plaintiff SSI Technologies, LLC's motions to strike, Dkt. 90 and Dkt. 148, its motions to compel, Dkt. 140 and Dkt. 145, its motion for discovery sanctions, Dkt. 185, and its motion in limine, Dkt. 184, are DENIED as moot.
2. Defendant Dongguan Zhengyang Electronic Mechanical LTD's motions to exclude the opinion's and testimony of SSI's experts, Dkt. 195 and Dkt. 197, and its motion in limine, Dkt. 193, are DENIED as moot.
3. SSI's motion for summary judgment, Dkt. 92, is GRANTED in part and DENIED in part. DZEM's tortious-interference counterclaim is DISMISSED. The remainder of SSI's motion is DENIED.
4. DZEM's motion for partial summary judgment, Dkt. 98, is GRANTED in part and DENIED in part:
 - a. The DZEM sensor does not infringe claims 1, 2, 4, 7, and 8 of the '153 patent.
 - b. The DZEM sensor does not infringe claims 9–13 and 18 of the '038 patent.
 - c. The remainder of DZEM's motion is DENIED, and DZEM's invalidity counterclaims are DISMISSED as moot.

5. The clerk of court is directed to enter judgment in accordance with this opinion and close this case.

Entered September 3, 2021.

BY THE COURT:

/s/

JAMES D. PETERSON
District Judge